

Summary of the California Energy Commission's Renewables Portfolio Standard Contractor Reports, and the Status of Renewables Portfolio Standard Contracting and Regulation

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ABSTRACT

In this short paper, we first summarize the findings from the following three recent analytical studies prepared by KEMA, Inc., for the Energy Commission on California's Renewables Portfolio Standard: *Preliminary Stakeholder Evaluation of the California Renewables Portfolio Standard*, *Building a 'Margin of Safety' Into Renewable Energy Procurements: A Review of Experience with Contract Failure*, and *Publicly Owned Electric Utilities and the California Renewables Portfolio Standard: A Summary of Data Collection Activities*. A considerable amount of contracting and regulatory design activity has been initiated and completed since these reports were published. We therefore also provide a status report on recent contracting activities and regulatory decisions, and highlight how the state's regulatory agencies have so far addressed the recommendations made in the *Preliminary Stakeholder Evaluation* report.

KEYWORDS

Renewable energy, California Renewables Portfolio Standard, publicly owned electric utilities, investor-owned utilities.

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CHAPTER 1: INTRODUCTION

California's Renewables Portfolio Standard (RPS) was established by Senate Bill 1078 (Sher), Chapter 516, Statutes of 2002, and calls for the state's investor-owned utilities (IOUs), energy service providers (ESPs), and community choice aggregators (CCAs) to meet 20 percent of their electricity load with eligible sources of renewable energy by 2017.¹ The state's energy agencies have committed to accelerating the RPS such that the 20 percent requirement is met by 2010. Publicly owned utilities (POUs) – representing approximately 25 percent of the state's load – are responsible for establishing their own renewable energy objectives. California's RPS represents the nation's most aggressive renewable energy target in terms of new capacity obligations.

Under the state's RPS, the California Public Utilities Commission (CPUC) has primary responsibility to oversee the planning, contracting, compliance, and enforcement provisions of the RPS as applied to IOUs and ESPs/CCAs. The California Energy Commission (Energy Commission) also has important responsibilities in the implementation of the RPS, including: (1) renewable resource eligibility determinations, (2) administration of supplemental energy payments (SEPs), and (3) establishing a regional renewables tracking and accounting system.

In support of the state's RPS, the Energy Commission has commissioned three recent analytical studies that address various issues associated with the RPS:

- *Preliminary Stakeholder Evaluation of the California Renewables Portfolio Standard*. CEC-300-2005-011. Prepared by Ryan Wiser, Kevin Porter, and Mark Bolinger. June 2005.²
- *Building a 'Margin of Safety' into Renewable Energy Procurements: A Review of Experience with Contract Failure*. CEC-300-2006-004. Prepared by Ryan Wiser, Ric O'Connell, Mark Bolinger, Robert Grace, and Ryan Pletka. January 2006.³
- *Publicly Owned Electric Utilities and the California Renewables Portfolio Standard: A Summary of Data Collection Activities*. CEC-300-2005-023. Prepared by Ryan Wiser, William Golove, and Mark Bolinger. November 2005.⁴

In this short paper, we first summarize the findings from these three studies. A considerable amount of contracting and regulatory design activity has been initiated and completed since these reports were published. We therefore also provide a status report on recent contracting activities and regulatory decisions, and highlight how the state's regulatory agencies have so far addressed the recommendations made in the *Preliminary Stakeholder Evaluation* report.

CHAPTER 2: SUMMARY - PRELIMINARY STAKEHOLDER EVALUATION OF THE CALIFORNIA RENEWABLES PORTFOLIO STANDARD

Finalized in June 2005, the *Preliminary Stakeholder Evaluation of the California Renewables Portfolio Standard* report provided an early assessment of experience with the California RPS. The report addressed three main topics: (1) the policy's overall design and regulatory process of implementing the RPS; (2) experience with the IOUs' renewable energy solicitations; and (3) deliverability rules for renewable energy for both in-state and out-of-state renewable generators. The key purposes of the report were to identify lessons learned with early implementation of California's RPS and to highlight areas of possible legislative and regulatory improvements.

To examine these issues, the authors conducted interviews with a broad cross-section of RPS stakeholders, and briefly reviewed some of the characteristics of RPS policies in other states. Ultimately, 21 interviews were conducted, including three with IOU representatives, ten with developers, three with developer associations, three with nonprofit organizations, and two with ESP/CCA representatives.

The report found that California's RPS is statutorily unique in its design and complexity, requiring a greater number of regulatory implementation decisions than other state RPS programs. In part as a result, implementation of the state's RPS has been slow relative to the processes used in other states. The report also cautions that before fundamental changes to the policy are contemplated, one should recognize that the policy has been operating for only a brief period of time and that renewable energy contracting activity is accelerating.

At the same time, the report's stakeholder interviews yielded widespread agreement on one point: that the state's policy is not optimal and that numerous challenges remain. Concerns were raised not only on the substance of the state's statutory design of the RPS, but also on the timeliness of implementation and the transparency of the overall process. Not surprisingly, however, stakeholders had diverse opinions about how to improve the policy.

As revealed by the survey, significant barriers to achieving the 20 percent target include:

- The need for and the complexity of expanding transmission to access certain resource areas.
- The renewable electricity delivery requirements imposed by statute and regulatory decisions.
- Delays associated with the utility request for offers (RFOs), and some of the terms and conditions in those RFOs.

- The potential lack of supply of low-cost, reasonably-available renewable resources.
- Concerns that some of the contracted projects will not materialize because of siting issues, fuel supply risks, transmission constraints, technical problems, or financing difficulties.
- That an RPS framework for the state's ESPs and CCAs had not yet been fully developed.
- Concerns about the overall complexity of the RPS statute.

Lacking consensus among stakeholders on specific proposed design changes, the authors of the report offered their own tentative recommendations, based on the interview results and on their understanding of the California RPS and similar policies in other states. These recommendations are summarized in Table 1 (justifications for the recommendations are provided in the report).

**Table 1. Recommendations from
Preliminary Stakeholder Evaluation Report**

Process Recommendations

- Additional staffing at the CPUC and the Energy Commission dedicated to the RPS
- Additional focus and leadership from the CPUC on RPS
- Enhanced expertise at the CPUC on transmission and heightened involvement of the California Independent System Operator
- Emphasis on the use of workshop processes where possible, and consolidation of decisions
- Clearer prioritization of critical-path items

Near-Term Actions on Utility Solicitations

- Consider relaxing delivery for in-state generators:
 - allow delivery anywhere in state
 - allow developers to offer shaped products
- Consider relaxing delivery for out-of-state generators, allowing delivery to nearby market hubs and substations, with utilities managing delivery into the state
- Consider making policy decisions on elements of utility RFOs, e.g.: (1) delivery point in event of market redesign, (2) bid deposits, (3) other issues with form contracts, and (4) utility ownership.
- Consider waiting for additional RFO experience before developing rigid deadlines, but ensure that threat of noncompliance penalties is credible
- Though not critical path items: (1) consider a workshop on the solicitation cycle, procurement flexibility, and developer bids into multiple RFOs, and (2) track the financeability of SEPs and the possible future need to firm-up the SEP revenue stream

Near- to Mid-Term Policy Decisions

- Immediately focus on RPS for ESPs and CCAs
- Address deliverability issues, Transmission Ranking Cost Report (TRCR), and support for transmission expansion
 - identify additional resource areas in need of proactive transmission planning processes
 - continue analysis of present TRCR process, with the help of the California Independent System Operator (CA ISO)
 - greater involvement and leadership from CPUC on transmission expansion
- Consider use of unbundled renewable energy certificates (RECs) and application of SEPs to RECs
- Address the potential for contract failure: (1) organize workshop, (2) consider requiring over-contracting, and (3) consider clarifying application of penalties and flexibility mechanisms in event of contract failure
- Consider clarifying rules for penalties and flexibility mechanisms

Longer-Term Policy Issue

- Consider eliminating SEPs and the market price referents (MPRs) altogether

Source: KEMA, Inc.

CHAPTER 3: SUMMARY - BUILDING A 'MARGIN OF SAFETY' INTO RENEWABLE ENERGY PROCUREMENTS: A REVIEW OF EXPERIENCE WITH CONTRACT FAILURE

In implementing state RPS policies, utility purchasers and electricity regulators must confront the reality that signed renewable energy contracts will not always yield operational projects on the timeline given in the contracts themselves. Renewable energy projects may fail to achieve scheduled commercial operations for a variety of reasons, some of which are outside the control of both the purchasing utility and the renewable energy developer. If not addressed, this risk of *contract failure* could cause individual load-serving entities, or the entire state, to fall short of their renewable energy targets.

The *Preliminary Stakeholder Evaluation* report identifies the possibility of renewable energy contract failure as a potentially significant impediment to achieving the state's aggressive renewable energy goals. In *Building a 'Margin of Safety' into Renewable Energy Procurements: A Review of Experience with Contract Failure*, the authors summarize potentially relevant experience with renewable energy contract failure from:

- Historical experience in California within the major IOUs' service territories.
- A survey of 21 North American utility renewable energy contracting efforts.
- Government renewable energy contract and incentive auctions.

Though available data are somewhat spotty in places, the resulting contract sample is nonetheless extensive, consisting of more than 21,500 megawatts (MW) of renewable energy contracts.

The report finds that contract failure rates vary considerably among utilities, across situations, and by technology. Though some of this experience is not entirely relevant to the current contracting practices of California's IOUs, and data limitations prevent robust conclusions, the data suggest that a *minimum* overall failure rate of 20 to 30 percent should generally be expected for large solicitations conducted over multiple years. Failure rates much higher than these levels are supported by historical experience, especially for projects that use pre-commercial technologies or (like many projects in California) are likely to face siting, permitting, resource supply, transmission, or other barriers to development. The report finds that the top causes of contract failure in other North American utility RFOs include siting and permitting challenges, developer financing difficulties, capital cost increases, and transmission and interconnection issues.

The authors recommend ongoing monitoring of contract failure in California. Ongoing and more systematic monitoring of contract failure in the state will help

inform the appropriate level of (and changes to) any over-contracting target that might be established. Moreover, as additional contracting experience is gained, the authors note that it may be helpful to scrutinize the different approaches used by utility purchasers to mitigate contract failure, document early experience with those measures, and compare in some detail the approaches used in various jurisdictions. Because measures to combat contract failure may have the unfortunate effect of restricting competition and raising bid prices, such analyses should take care to evaluate the advantages *and* disadvantages of these various procurement strategies.

CHAPTER 4: SUMMARY - PUBLICLY OWNED ELECTRIC UTILITIES AND THE CALIFORNIA RENEWABLES PORTFOLIO STANDARD: A SUMMARY OF DATA COLLECTION ACTIVITIES

As specified in SB 1078, “Each governing body of a local publicly owned electric utility, as defined in Section 9604, shall be responsible for implementing and enforcing a renewables portfolio standard that recognizes the intent of the Legislature to encourage renewable resources, while taking into consideration the effect of the standard on rates, reliability, and financial resources and the goal of environmental improvement.” SB 1078 goes on to require that POUs report annually to their customers: (1) the expenditures of public goods charge funds for renewable energy development, and (2) the resource mix used to serve customers, including the contribution of each type of renewable energy resource.

In Publicly Owned Electric Utilities and the California Renewables Portfolio Standard: A Summary of Data Collection Activities, the authors investigate how the POUs are meeting the conditions of SB 1078. The scope of work included:

- A description of the varied treatment of POUs in other state RPS programs, contrasting that treatment with the approach used in California.
- A listing of California POU renewable energy targets, timelines, and eligibility rules, and a comparison of POU targets with those of the state’s three major IOUs.
- A report on the status of POU renewable energy procurement to date, and comparing recent POU renewable procurements with those of the state’s IOUs.
- A summary of some of the barriers to aggressive POU RPS policies.

The authors find that California’s approach to POUs under the state’s RPS is more stringent than that in nine other states where POUs are fully exempt, and is less stringent than in three states where POUs must fully comply with the state’s renewable energy goals. California is among 10 states that take an intermediate approach to POUs.

The authors further report that at least 29 POUs, representing approximately 98 percent of the total POU load in the state, are known to have established RPS commitments of some type, and that at least 16 of these POUs have taken measurable steps to acquire renewable resources. The RPS policies being established by POUs vary considerably, and in some cases are less stringent than those policies established by SB 1078 for the state’s IOUs and ESPs/CCAs because of lower targets, later targets, looser resource eligibility and delivery requirements, among other factors.

Nonetheless, the authors find that, on average, POU RPS targets are actually more aggressive than those of the state's IOUs. On a load-weighted basis, where data are available, POU incremental renewable energy needs represent 12.5 percent of load. The comparable figure for the state's IOUs is 6.1 percent. There is, of course, considerable variation in renewable energy need among both the IOUs and the POUs. But of the 20 POUs for which these data were available, representing 89 percent of statewide POU load in 2003, 11 have incremental renewable energy purchase needs that exceed those of the IOUs, on average. The state's IOUs are currently held to a 2010 date for 20 percent RPS compliance, but the state's POUs have generally provided themselves more time to comply with their internal targets. Even on an annual basis, however, POU targets are, on average, more aggressive than those of the IOUs. Though there are a variety of problems in making such comparisons, it is at least apparent that the self-established POU renewable energy targets are not substantially more lenient than the 20-percent-by-2010 target applied to the state's IOUs.

The POU renewable energy targets described above are goals, and are not enforced in the same manner as the IOUs' RPS requirements. Despite that, the authors find that the POUs had, in total, contracted with roughly 1,000 MW of renewable energy capacity over the last several years, including 535 MW of wind, 225 MW of geothermal, 51 MW of landfill gas, and 74 MW of biomass. Most of this capacity represents new renewable energy generation, much of which is not yet on line. Applying capacity factor assumptions where necessary, these projects hold the promise of annual renewable energy deliveries of over 4,700 gigawatt-hours (GWh), if all projects achieve commercial operations. These potential renewable deliveries represent 8.2 percent of statewide 2003 POU load. As summarized below, this compares to aggregate IOU contracts with existing and new renewable projects since 2002 of 6.1 to 8.9 percent of aggregate IOU load (3.8 to 6.6 percent, if focused just on contracts with new renewable energy facilities).

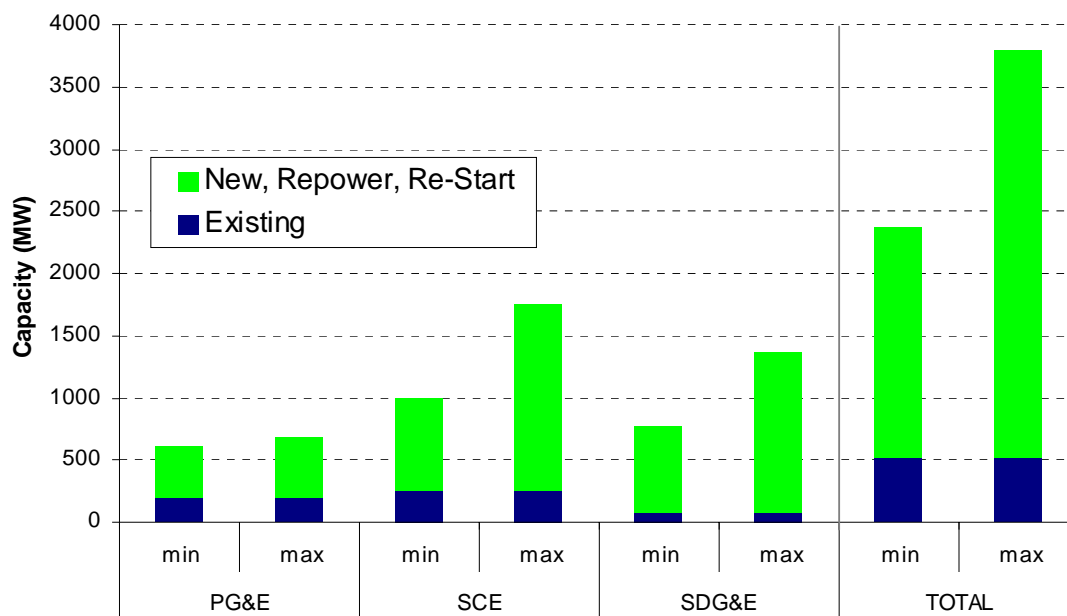
The underlying conclusion from these data appears to be that the POUs have been somewhat more aggressive with their renewable energy goals and contracting in recent years than have the state's IOUs, on average.

CHAPTER 5: RECENT RENEWABLE ENERGY CONTRACTING ACTIVITY

A considerable amount of contracting activity is now occurring under the auspices of the state's RPS. This is true for both the state's IOUs and POUs.

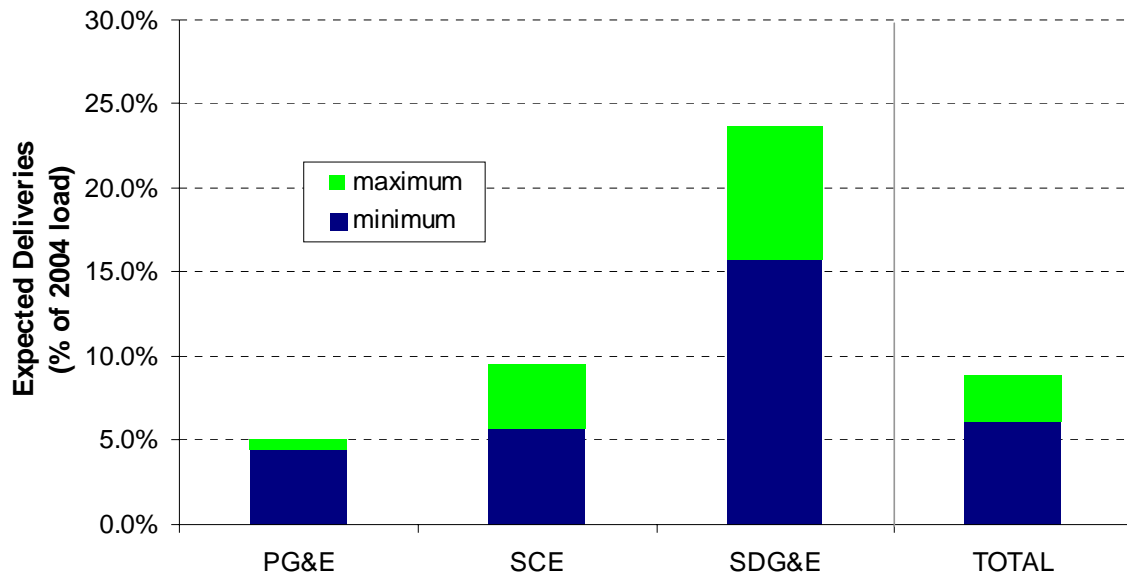
- Investor-Owned Utilities:** According to a contract database prepared for the Energy Commission, through interim renewable solicitations in 2002, bilateral contracts, and 2003, 2004, and 2005 RFOs, the state's three IOUs had signed contracts for 2,373 – 3,795 MW of new and existing renewable energy capacity as of June 6, 2006 (see Figure 1).⁵ The range of capacity represents potential build-out options. If each of the new projects achieves commercial operations, total deliveries from new and existing projects could amount to 6.1 to 8.9 percent of the IOUs' combined 2004 electricity load (see Figure 2). Focusing just on contracts with new, re-powered, or restarted renewable facilities, total capacity under contract currently equals 1,853 to 3,275 MW, or 3.8 to 6.6 percent of 2004 aggregate IOU load (again, assuming that all contracts deliver as promised). Additional contracts are expected as a result of the 2005 RFO cycle, and all three IOUs are currently planning to proceed with their 2006 RFOs; a large number of additional contracts are therefore expected.

Figure 1. Renewable Energy Capacity Currently under Contract to Investor-Owned Utilities from Contracts Signed since 2002, by Utility and Vintage



Source: KEMA, Inc.

Figure 2. Total Expected Renewable Deliveries as a Percentage of 2004 Load from Contracts Signed since 2002 (Assuming no Additional Contract Failure)



Source: KEMA, Inc.

- Publicly Owned Utilities:** The Energy Commission and its contractors have not updated the database on POU renewable energy contracting activities since the publication of *Publicly Owned Electric Utilities and the California Renewables Portfolio Standard: A Summary of Data Collection Activities*. Nonetheless, contracting activity has continued. The Los Angeles Department of Water and Power, for example, recently accelerated its 20 percent goal to 2010, and announced a contract with PPM Energy for 82 MW of wind from Wyoming, while Silicon Valley Power announced the purchase of 105 MW of wind power from a new wind project in Washington.
- Energy Service Providers/Community Choice Aggregators/Small and Multi-Jurisdictional Utilities:** The CPUC has not yet applied the state's RPS to ESPs, CCAs, or small and multi-jurisdictional utilities (SMJUs). As a result, these entities have not generally begun to contract with renewable energy facilities for the specific purpose of meeting California's RPS. Based on filings to the CPUC made in January and February of 2006, it is also clear that the state's ESPs are starting with few pre-existing renewable energy purchases.

Despite some recent contracting success, relatively few RPS-eligible new renewable energy projects have achieved commercial operation since SB 1078 was passed. Focusing on the IOUs, just 241 MW of new renewable energy projects have achieved commercial operation since 2002, representing 7 to 13 percent of the new renewable energy projects now under contract to the IOUs. As a result, the state as a whole has fallen well behind schedule in meeting its aggressive renewable energy

targets, and actual renewable energy deliveries have not appreciably increased since California's RPS was established (on a percentage of load basis).

Depending on the assumed capacity factor, the Energy Commission has estimated that meeting the state's 20 percent target by 2010 could require roughly 6,700 MW of additional renewable energy capacity, relative to 2003 deliveries.⁶ Given the historical and projected contracting activity, and the time required to bring new renewable energy projects online, even with best efforts going forward, many parties now believe that 20 percent of the state's energy deliveries are unlikely to derive from eligible renewable energy sources in 2010.⁷

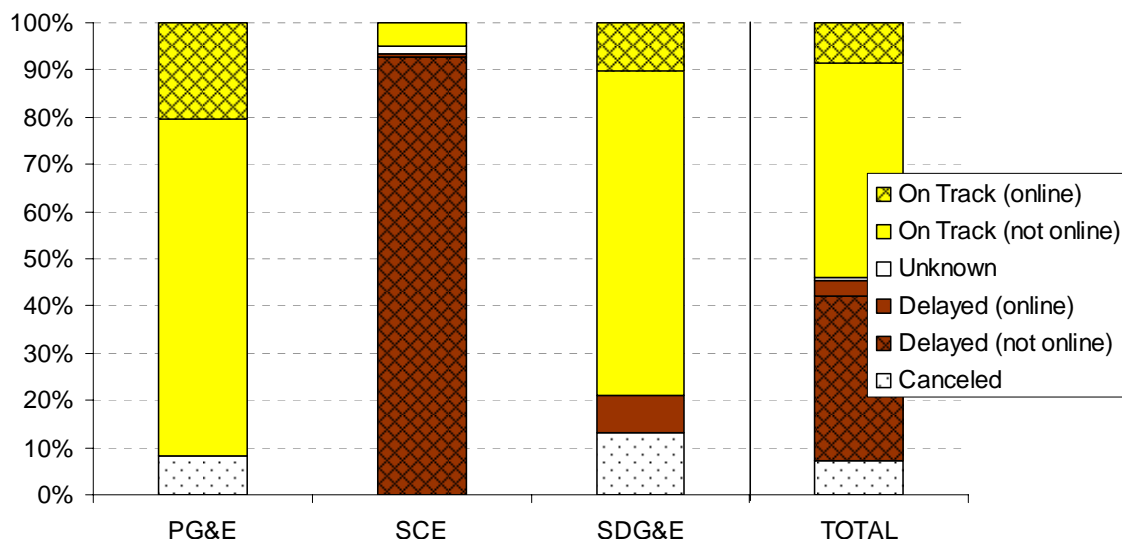
CHAPTER 6: CONTRACT FAILURE AND REQUEST FOR OFFER TIMELINES

A variety of barriers exist to the achievement of the state's aggressive renewable energy goals, many of which are discussed later in this paper. Here we focus on two potential barriers: contract failure and RFO timelines.

Contract Failure

The IOU renewable energy contract database cited earlier also contains updated, publicly available information on contract failure (see Figure 3 for summary information). According to the database, of the IOUs' contracts with new, repowered, and re-started renewable energy capacity since 2002 (on a capacity basis, not considering expansion options), 7 percent have been cancelled, 38 percent have been delayed (3 percent of which are now online, and 35 percent of which are not online), and 54 percent are on schedule (9 percent of which are now online, and 45 percent of which are not online). Given the paucity of publicly available data and the early stage of the IOUs' contracting activity, these findings should be considered preliminary. If anything, we would expect the degree of contract failure to increase as projects move along their development paths and face barriers of various types.

Figure 3. Status of New, Repowered, and Re-Started Capacity under Contract to California Investor-Owned Utilities since 2002



Source: KEMA, Inc.

Request for Offer Timelines

Some concerns were expressed in the *Preliminary Stakeholder Evaluation* report on the speed with which the IOUs were conducting and finalizing their RFOs. Reasons for the initial delays were described in the report, and some expectation was expressed by the authors that future solicitations may proceed more rapidly as contracting experiences are gained. As shown in Table 2, below, there has perhaps been some increase in the speed of contracting, but 8+ months are still required between solicitation release and the first advice letter contract filings from a utility RFO cycle, with the final advice letter filing sometimes following as much as a year later. Though such timelines make an annual solicitation cycle challenging, they are not out of line with renewable energy solicitation experiences in other states. The CPUC-directed timeline for the 2006 RFO cycle, if followed, will result in a much more rapid contracting process.⁸

Table 2. Months between Solicitation Release and First Advice Letter Filing

	2003 RFOs	2004 RFOs	2005 RFOs	2006 RFOs (proposed)
Southern California Edison (SCE)	19		8+	5
Pacific Gas & Electric (PG&E)		10	9	5
San Diego Gas & Electric (SDG&E)		16	8+	5

Note: SCE and SDG&E's 2005 solicitations have not yet resulted in an advice letter for contract approval.

Source: KEMA, Inc.

CHAPTER 7: RECENT REGULATORY DECISIONS AND PROCESSES

A variety of barriers exist to the achievement of the state's aggressive renewable energy goals. Since the publication in June 2005 of the *Preliminary Stakeholder Evaluation* report, both the CPUC and Energy Commission have addressed a number of these barriers; this despite the fact that both agencies are short-staffed and are faced with implementing a complex RPS statute. Though positive progress has been made, however, a number of the recommendations provided in the reports summarized earlier remain unaddressed or unresolved by the state's regulatory and legislative bodies. Some of the more important recent developments are highlighted below.

Transmission Developments

Transmission has emerged as perhaps the primary barrier to achieving the state's aggressive renewable energy goals. SDG&E has flatly stated it is unlikely to meet its 2010 RPS target without new transmission, and SCE has indicated that nearly all of the winning bidders under its 2003 RPS solicitation have been significantly delayed because of lack of transmission.⁹

The CPUC has taken a more proactive stance in this area in recent months than previously. In September 2005, the CPUC opened an investigation (I. 05-09-005) into encouraging the proactive development of transmission infrastructure that appears necessary for meeting the California RPS targets. Consistent with the findings of the *Preliminary Stakeholder Evaluation* report, a subsequent scoping memo by Commissioner Gruenich identified four high-priority areas: cost recovery issues; streamlining the transmission permitting process where possible; coordinating RPS procurement with transmission planning; and identifying transmission improvements that do not require Certificate of Public Convenience and Necessity (CPCN) or Permit to Construct (PTC) applications. In April 2006, the assigned Administrative Law Judge (ALJ) issued a draft decision focused on cost recovery issues and the backstop funding provisions of Public Utilities Code 399.25. The CPUC issued a final decision on June 15, 2006 (D. 06-06-034). That decision finds that the "backstop" cost recovery provisions of Public Utilities Code Section 399.25: (1) generally apply to transmission facilities that come before the CPUC in the form of a CPCN or PTC application and that are deemed necessary to facilitate meeting the RPS, but not to the exclusion of projects that do not require a CPCN or PTC; (2) apply to both network and generation-tie transmission facilities; (3) do not require network benefits as a prerequisite; and (4) apply to transmission facilities that are designed to serve multiple RPS-eligible projects, or RPS projects that have won power purchase contracts. The CPUC has also held a workshop on transmission streamlining issues, in the hope of identifying procedural ways of speeding the permitting approval process.

The CPUC also has authorized the creation of multi-stakeholder study groups to consider how to access renewable-rich resource areas in California. The Tehachapi Collaborative Study Group (TCSG) has issued two reports aimed at accessing over 4,500 MW of new wind resources at Tehachapi. The TCSG considered two alternatives for interconnecting generation at either the Midway or Vincent substations, and estimated that transmission investments of about \$1 billion would be necessary for either alternative. SCE has filed applications for Phase 1 for transmission facilities in Tehachapi to accommodate 700 MW, with applications for Phases 2 and 3 to come late this year or in early 2007. On the current schedule, the Tehachapi build-out may occur too late to assist in meeting the state's 2010, 20 percent RPS target.¹⁰ Separately, the Imperial Valley Study Group (IVSG) issued a report in September 2005 with a three-phase conceptual plan to access the region's estimated 2,200 MW of renewable resources. SDG&E is collaborating with other parties on a proposed transmission project that would access geothermal, solar, and wind energy from the Imperial Valley region. SDG&E is expected to make a complete application to the CPUC in July 2006.

The CA ISO has also become more active in transmission planning. The CA ISO unveiled a renewable energy transmission initiative at its June 14, 2006 board meeting. Among other things, the CA ISO offered new evaluation criteria for investments that are not considered network or gen-tie facilities. Ultimately, the CA ISO may create a new category of transmission upgrades intended to interconnect more renewable energy projects, as SCE suggested in its failed "trunk line" petition in 2005 before Federal Energy Regulatory Commission (FERC). The CA ISO will file a petition with FERC for a declaratory order requesting policy guidance on such a transmission category before seeking final approval from the CA ISO's Board of Directors and filing a tariff at FERC. A briefing to the CA ISO's Board of Directors on the FERC filing is scheduled for August 3, 2006. The CA ISO also plans to issue a white paper on renewable energy and transmission in late June and will have at least one stakeholder meeting on the paper, scheduled for July 7, 2006, with comments on the white paper due on July 14, 2006. Separately, the CA ISO is also assessing the need for transmission facilities at Tehachapi; Imperial Valley; the proposed Lake Elsinore Advanced Pumped Storage project; or a combination of these options and plans to have recommendations to the CA ISO's Board of Directors in fall 2006.

Deliverability and Renewable Energy Certificates

Several recent decisions by the CPUC have had the effect of loosening the delivery requirements imposed by the state's IOUs on renewable energy projects. In Decision 05-07-039 (July 2005), the CPUC required the utilities to change their RFOs to allow bids from out-of-territory generators that have delivery at points anywhere within the CA ISO control area, and also reiterated the ability of generators to offer curtailable products. More recently, in Decision 06-05-039

(May 2006), the CPUC further expanded eligible delivery points to the entire California grid, though there is disagreement as to exactly how these requirements are to be implemented.¹¹ These decisions follow the recommendations offered in the *Preliminary Stakeholder Evaluation* report, though greater direction on how to evaluate proposals with non-utility-territory delivery may be required.

In its April 2006 update to the *Renewables Portfolio Standard Eligibility Guidebook*,¹² the Energy Commission further clarified the delivery requirements that apply to out-of-state generation, allowing either the seller or the purchaser to arrange for the transmission needed to ensure in-state deliveries. The Energy Commission has also begun to explore the impediments that the present delivery requirements impose on out-of-state intermittent generators, in light of more recent information on the challenges of executing such transactions through the CA ISO.

As also recommended in the *Preliminary Stakeholder Evaluation* report, the CPUC has begun an investigation into the role of RECs and shaped/firmed products under the state's RPS.¹³ Though the CPUC's jurisdiction on the issue of RECs is in dispute, in April 2006, the CPUC staff issued a white paper on the potential use of RECs under the California RPS. In June 2006, comments and reply comments on that white paper were due, focusing on the potential use of shaped/firmed products, and unbundled RECs.¹⁴ These issues are now being addressed through R.06-02-012, with the CPUC tentatively planning to issue a final decision by the end of the first quarter of 2007.

Utility Planning and Contracting Requirements

In Decision 05-07-039 (July 2005), the CPUC approved the short-term procurement plans and draft RFOs for the IOUs' 2005 renewable energy solicitation cycle. Decision 05-07-040 (July 2005) addressed the TRCR process for the 2005 solicitation cycle. Of perhaps greatest import, the decision assigns the costs of large transmission upgrades that would be used by more than one RPS project on a pro rata basis for purposes of bid evaluation, commencing with the 2005 procurement. Decision 05-10-014 (October 2005) conditionally approved the IOUs' 2005 long-term procurement plans and required supplemental filings from the utilities. Of emphasis in the decision was that the utilities should include more comprehensive transmission planning information in their plans, and that contingency planning should receive greater emphasis.

Though Decision 05-07-039 was relatively permissive in allowing utilities to use their own business judgment in determining the precise terms of the 2005 solicitations, Decision 06-05-039 (May 2006) conditionally approving the IOUs' 2006 procurement plans and solicitations demonstrated a somewhat more proactive CPUC stance. In particular, the decision:

- Expresses active support for utility ownership of renewable projects.

- Encourages reconsideration of bid and other deposits.
- Requires a more standardized approach to address CA ISO market redesign.
- Establishes an aggressive schedule for the 2006 procurement cycle, while declining to establish firm deadlines.

Several of these recommendations are consistent with those made in the *Preliminary Stakeholder Evaluation* report. In addition, both the CPUC and the Energy Commission are exploring in more depth the credit requirements imposed by the state's IOUs in their RFO processes, the Energy Commission through a late-June workshop on the subject, and the CPUC through a solicitation to hire a consultant to review and analyze the present requirements. The CPUC also has tentative plans to conduct a "lessons learned" process to refine elements of the renewable energy procurement process (e.g., least-cost, best fit evaluation; bid deposits; standard terms and conditions; etc.) in the third and fourth quarters of 2006.

Transparency

Though the California RPS remains complex, the CPUC has recently taken steps to improve the transparency of the process. In particular, Decision 06-05-039 (May 2006) requires the IOUs to more formally report on evaluation criteria and solicitation results upon the submission of their short list, and also requires that the IOUs utilize an independent evaluator to separately evaluate and report on the procurement process. It remains to be seen whether the redacted versions of these reports will provide insight to parties who cannot access the un-redacted versions.

The Energy Commission has also sought to increase the transparency of the process including, most specifically, requiring the submittal of detailed bid information within SEP applications.

Market Price Referents and Supplemental Energy Payments

In Decision 05-12-042 (December 2005), the CPUC adopted the methodology to be used for establishing the MPR for the 2005 IOU RFOs. Though a number of changes were required by the decision, the most significant was to move towards a time-of-delivery (TOD) based MPR. Such an MPR is believed by the CPUC, and many of the parties, to better reflect the true market value of different renewable energy resources to their potential utility purchasers. An outcome of moving towards such an MPR, however, is that the process of calculating required SEP payments is made more complicated. Also of some concern is that the CPUC, in Decision 06-05-039 (May 2006), declined to adopt a specific approach for evaluating the reasonableness of utility-created TOD profiles. The MPRs to be used for the 2005

RFO cycle were released in April 2006 under Resolution E-3980, with values for baseload generators of 7.6 cents per kWh to 8.4 cents per kWh depending on the proposed on-line date and contract term.

In its April 2006 update to the *New Renewable Facilities Program Guidebook*,¹⁵ the Energy Commission further clarified the process by which SEP applications would be reviewed, accepted, and terminated, including detailed requirements for what information would be necessary to apply for SEPs. The Energy Commission chose not to implement specific SEP caps, but to instead use discretion as needed to set caps based on actual SEP requests. No SEP applications have yet been received by the Energy Commission, though two contracts for which Advice Letter approval has been sought at the CPUC will apparently require SEPs.

The *Preliminary Stakeholder Evaluation* report made two additional recommendations related to the MPR/SEP process. First, the authors recommended that the Energy Commission consider seeking legislative approval for the use of escrow accounts to provide further assurance to SEP applicants that SEP payments would be made over the 10-year contract period. Second, on a longer-term basis, the authors recommended that the legislature consider eliminating the MPR and SEP structure altogether, and replacing it with a more traditional RPS requirement as imposed in other states. Neither of the recommendations has been implemented legislatively.

Contract Failure

The Energy Commission's contractor reports summarized earlier place particular emphasis on the risk of contract failure. The CPUC has begun to address this risk. In Decision 05-10-014 (October 2005) the CPUC required the utilities in their supplements to their 2005 long-term procurement plans to make an initial quantification of their "margin of safety" in RPS procurement, both in terms of their annual procurement targets and in relation to the 2010 target date. In Decision 06-05-039 (May 2006) the CPUC declined to *require* over-procurement, but instead:

- Stressed the importance of each IOU continuing to include its own procurement margin of safety;
- Adopted additional reporting requirements to better track the progress of each renewable project in meeting its development and operational milestones; and
- Made clear that the utilities would be subject to penalties if they failed to adequately plan for compliance with the state's RPS.

Though these steps begin to address the underlying concern, it is somewhat unclear whether the contingency planning currently being undertaken by the three utilities (as summarized in Decision 06-05-039) will result in a "margin of safety" that is of the magnitude that may ultimately be necessary, based on information presented in *Building a 'Margin of Safety' into Renewable Energy Procurements: A Review of*

Experience with Contract Failure (i.e., a minimum of 30 percent of contract failure should perhaps be expected).

Compliance Reporting

The compliance reporting process used to track and verify compliance with the state's RPS is complex. RPS targets are divided into the annual procurement target (APT) and incremental procurement target (IPT), and multiple compliance flexibility options are available. When and under what conditions non-compliance penalties will apply is therefore also uncertain. At least some of these complexities are required by law.

Based on the Energy Commission's interim tracking system, the Energy Commission completed its first *Renewables Portfolio Standard Procurement Verification Report* in February 2006,¹⁶ and transmitted that report to the CPUC for consideration. The preparation of that report uncovered several complexities of the compliance reporting process.

The CPUC has taken some steps to clarify the compliance process. In Decision 05-07-039 (July 2005), for example, the CPUC clarified the process and form of compliance reporting, and also found that geothermal energy can only qualify for the IPT if it is certified as incremental by the Energy Commission.¹⁷ Further, in Decision 06-05-039 (May 2006), the CPUC declined PG&E and SCE's arguments for greater compliance flexibility (full earmarking and flexible compliance in 2010).

Despite these decisions, it remains somewhat unclear how actual compliance will be tracked and what precise processes will be used to document compliance, or the lack thereof. As such, in February 2006 the CPUC staff issued a draft reporting and compliance white paper. A workshop was held on the white paper, and comments and reply comments were solicited in March 2006. The CPUC has not yet issued a proposed decision in the matter, and work in this area will proceed under a new rulemaking, R.06-05-027. The CPUC currently plans to issue a decision on this topic in the third quarter of 2006, with compliance and enforcement options addressed by the end of the first quarter of 2007. In the meantime, the compliance reporting and enforcement processes under the state's RPS remain somewhat uncertain.

Electric Service Providers, Community Choice Aggregators, and Small and Multi-Jurisdictional Utilities

Requirements under the RPS statute for ESPs, CCA, and SMJUs began on January 1, 2003. After three and a half years, rules for the application of the RPS to these entities are still lacking. As noted by the Energy Commission's consultant reports summarized earlier, these entities have very different business structures than do

the state's large IOUs, and may therefore require somewhat different rules under which to comply with the RPS.

The CPUC has begun to consider these issues. In a November 2005 decision (D. 05-11-025), for example, the CPUC set forth the basic parameters for the participation of the ESPs, CCAs, and SMJUs in the RPS, ruling that all entities must comply with the same fundamental aspects of the RPS program, but providing some flexibility in the manner in which that participation occurs for ESPs, CCAs and SMJUs. The decision also expressed a desire to further explore the possibility of unbundled RECs and short-term renewable energy contracts.

Now being addressed through R.06-02-012, since the November decision, the CPUC has:

- Accepted proposals for how the RPS might apply to ESPs, CCAs, and SMJUs.
- Received data on historical renewable energy purchases by ESPs, CCAs, and SMJUs, and plans for future purchases.
- Conducted an evidentiary hearing and received briefs on the issue of contracts less than 10 years in duration.
- Received submissions on the issue of creditworthiness for SMJUs.
- Received comments on staff white paper on RECs.

The CPUC hopes to issue a draft decision on the participation of ESPs, CCAs, and SMJU's under the RPS by the end of 2006. Even with quick action by the CPUC, it will clearly be very challenging for ESPs and CCAs to meet the 20 percent target by 2010.

Western Renewable Energy Generation Information System

The Energy Commission is obligated by SB 1078 "to design and implement an accounting system to verify compliance with the renewable portfolio standard" and "to collect data from electricity market participants that it deems necessary to verify compliance of retail sellers." The Energy Commission is currently using an interim tracking system to support this verification, but is also developing the Western Renewable Energy Generation Information System (WREGIS) in the hopes of having an electronic tracking system operational in mid-2007. WREGIS is being developed in collaboration with the Western Governors' Association, with input from various western states and Canadian provinces.

In the fall of 2004, the Western Electricity Coordinating Council was selected as the future administrative home of the WREGIS system. A contract between the Energy Commission and the WECC is expected to be approved in July 2006, formalizing the legal arrangement between the Energy Commission and the WECC. The governance committee for WREGIS was formally convened in January 2006 to

address outstanding policy issues. The Energy Commission will retain decision-making authority for all programmatic and system design issues. A final Request for Proposals for a software developer and technical operator was released in June 2006. The Energy Commission expects to award a contract in October 2006.

Distributed Generation

The treatment of renewable distributed generation (DG) under the state's RPS has been at issue for some time. In Decision 05-05-011 (May 2005), the CPUC concluded that the owners of renewable DG facilities own the RECs associated with the generation of electricity from those facilities, but held off in determining how renewable DG facilities could participate under the RPS pending future decisions on measurement/metering and the treatment of subsidies provided to DG. Under Rulemaking 06-03-004, in June 2006 an ALJ ruling initiated a process by which DG measurement and subsidy issues would be addressed, with a tentative date for a proposed decision on these topics by November 2006.

CHAPTER 8: CONCLUSION

Despite the underlying complexity of the state's RPS, and resulting regulatory and contracting delays, the RPS policy has begun to create significant opportunities for renewable energy developers and a substantial amount of contracting activity. Because of delays in the initiation of these contracting activities, however, and because of transmission and other regulatory barriers and delays, the 2010 target of 20 percent of energy deliveries will be extremely difficult to achieve. To make aggressive progress towards that goal will require, most urgently, expedited transmission expansion and establishing a compliance framework for the state's ESPs/CCAs. A variety of other policy changes should also be considered, some of which could be accomplished through regulation and others that would require new legislation. The regulatory activities noted above show that the CPUC and Energy Commission are playing an increasingly proactive role in defining the basic framework for RPS compliance, but as always, even greater efforts may be required.

ENDNOTES

¹ Under Section 399.17 of the Public Utilities Code, small, multi-state jurisdictional utilities have somewhat different RPS requirements than other entities, and may meet their RPS requirements with eligible renewable energy from other states, as long as the renewable generator is connected to WECC, is not used to meet another state's RPS and is tracked by the Energy Commission's accounting system. Section 399.17 also requires the CPUC to determine the annual procurement target (APT) for eligible utilities based on their sales in California; allows an eligible utilities' integrated resource plan to be used in the place of a renewable energy procurement plan; and allows the recovery of procurement and administrative costs from long-term renewable energy purchases if the price is at or below CPUC-set market rates and such rates are not recoverable in other states.

² <http://www.energy.ca.gov/2005publications/CEC-300-2005-011/CEC-300-2005-011.PDF>

³ <http://www.energy.ca.gov/2006publications/CEC-300-2006-004/CEC-300-2006-004.PDF>

⁴ <http://www.energy.ca.gov/2005publications/CEC-300-2005-023/CEC-300-2005-023.PDF>

⁵ http://www.energy.ca.gov/portfolio/contracts_database.html

⁶ An average capacity factor of 50 percent is assumed here. For required electricity deliveries, see Table E-4 in *Implementing California's Loading Order for Electricity Resources*. CEC-400-2005-043, July 2005. <http://www.energy.ca.gov/2005publications/CEC-400-2005-043/CEC-400-2005-043.PDF>.

⁷ As one example, Green Power Institute writes "the fact is that few if any [Load Serving Entities] LSEs will be able to achieve twenty percent renewables in their supply mix by 2010" (Green Power Institute Reply Comments to RPS Reporting and Compliance Issues, March 22, 2006).

⁸ On June 14, 2006, the CPUC suspended the IOUs' 2006 renewable energy RFOs and directed them to file amended RFOs by June 23 (PG&E and SDG&E) and July 10 (SCE). It is currently unclear how this delay will affect the resulting schedule.

⁹ In Resolution E-3969, the CPUC expressed a willingness to allow SCE to absorb the costs of certain transmission studies needed by these projects. The resolution also required SCE to accelerate its "spring bloom" biological study in the Tehachapi area.

¹⁰ Under an accelerated and best-case scenario, transmission improvements and expansion for Tehachapi could be finished by the end of 2010. Such a schedule is, however, extremely aggressive.

¹¹ See, for example, the June 13, 2006 letter from CalWEA to Sean Gallagher (CPUC Energy Division) requesting to suspend PG&E's 2006 renewable energy RFO until the RFO has been revised to more accurately reflect the delivery requirements specified by the CPUC in Decision 06-05-039.

¹² *Renewables Portfolio Standard Eligibility Guidebook*, CEC-300-2006-007-F. May 2006.

<http://www.energy.ca.gov/2006publications/CEC-300-2006-007/CEC-300-2006-007-F.PDF>

¹³ The focus of the CPUC's efforts is on in-state shaped/firmed products, as the Energy Commission has the responsibility to verify out-of-state deliveries.

¹⁴ Some parties believe that the CPUC has already approved the use of shaped/firmed products for in-state generators, based on their acceptance of a contract between Calpine and SCE that involves shaping. Others believe that a more explicit statement of approval would be valuable so that no uncertainty exists.

¹⁵ *New Renewable Facilities Program Guidebook*. CEC-300-2006-006-F. May 2006.

<http://www.energy.ca.gov/2006publications/CEC-300-2006-006/CEC-300-2006-006-F.PDF>

¹⁶ *Renewables Portfolio Standard Procurement Verification Report*. CEC-300-2006-002-CMF.

February 2006. <http://www.energy.ca.gov/2006publications/CEC-300-2006-002/CEC-300-2006-002-CMF.PDF>

¹⁷ The CPUC later denied SCE's rehearing on this issue.